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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,446	02/11/2004	Srinivasa H. Raghavan	D472A	3697

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EXAMINER	
TAYONG, HELENE E	
ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/776,446	RAGHAVAN ET AL.	
	Examiner	Art Unit	
	HELENE TAYONG	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 April 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed on 7/18/08. New claims 12 and 13 were added to define uniphase has being the modulation of one phase of a carrier by a single signal. New claims 14 and 15 were added to define the modulation as being by one single spread spectrum signal modulating only one phase of the carrier. Claims 1-15 are pending in this application and have been considered below.

Response to Arguments

2. Applicant's arguments with respect to Claims 1-11 rejected under 35 U.S.C. § 102(b) as being anticipated by Raghavan (US 7139302), have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raghavan et al (US 6075810) in view of Shpantzer et al (US 20080175600).

(1) Regarding to claims 1, 12, 13, 14 and 15;

Raghavan et al discloses a system (See figures 3A, 3B, 5A, and col. 8, line 52 to col. 9, line 52, col. 10, line 56 to col. 11, line 20) for communicating a first formatted data stream (outputted from (38)) and a second formatted data stream (outputted from (108)) through a dual spectrum signal (110a and 110b), comprising over a communication bandwidth, the system comprising:

a first code formatter (36) for formatting a first spreading code (outputted from (34)) into a first formatted code (col. 9, line 18-19),

a first spreader (38) for spectrum spreading the first formatted data stream by the first formatted code into a first spread spectrum signal (17a), (col. 10, lines 1-4) a second code formatter (106) for formatting a second spreading code into a second formatted code (col. 9, lines 18-20),

a second spreader (108) for spectrum spreading the second formatted data stream by the second formatted code into a second spread spectrum signal (col.10, lines 1-2), and

a modulator (comprising (126 and 128 in fig. 4A)) for combining and communicating the first spread spectrum signal and the second spread spectrum signal into the dual spectrum signal (comprising (II0a)) (col. 9, lines 2-4), wherein the first spread spectrum signal having a first spectrum (90) over the communication bandwidth and the second spread spectrum signal having a second spectrum (132) over the communication bandwidth (see figure 5A) (col. 11, lines 14-16),

wherein

the first code formatter is an NRZ code formatter (see 36 of fig 3A) ,and the second code formatter is a staggered Manchester code formatter (see (106) of fig 3A , col. 8, lines 65-66).

Raghavan et al discloses all of the subject matter discussed above, but for specifically teaching that the first spread spectrum signal and the second spread spectrum signal respectively uniphase modulating a carrier, the dual spectrum signal being a uniphase dual spectrum signal

However, Shpantzer et al in the same endeavor (communication in a transmission link which could be applicable in systems like CDMA (page 6, [0076])) discloses in fig. 7, a uniphase modulator (710) that receives a clock signal 703 and input signal. The output signal includes the carrier and two strong side spectral components which have non-trivial amplitudes (page 3, [0050]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the uniphase modulator of Shpantzer et al in the system of Raghavan et al in order to modulate the first spread spectrum signal and the second spread spectrum signal respectively to form a composite signal with dual sprectrum. The motivation would be to reduce nonliearilty effects mitigation and cost (page 1, [0008]).

(2) Regarding to claim 2;

Raghavan et al further discloses the first spectrum is a nonsplit spectrum with a peak within the communication bandwidth, and the second spectrum is a split spectrum

with a null within the communication bandwidth (see figure 5A, and col. 10, line 56 to col. 11, line 20).

(3) Regarding to claim 3;

Raghavan et al further discloses the system is a code division multiple access system (see col. 9, lines 14-22).

(4) Regarding to claim 4;

Raghavan et al further discloses a first receiver (see figure 3B and col. 3, lines 11-41, col. 9, lines 23-52) for spread spectrum despreading the first spread spectrum signal and the second spread spectrum signal, the first receiver comprising:

a first replica code formatter (60) for formatting a first replica spreading code (outputted

from (60) into a first replica formatted code, the first replica spreading code being a replica of the first spreading code (col. 10, lines 34-35), and

a first despreader (54) for spectrum despreading the first spread spectrum signal by the first replica formatted code into a first despread signal (col. 10, lines 37-38).

(5) Regarding to claim 5;

Raghavan et al further discloses a second receiver (see figure 3B, and col. 9, lines 23-52) for spread spectrum despreading the second spread spectrum signal and the second spread spectrum signal, the second receiver comprising:

a second replica code formatter (112) for formatting a second replica spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code (col. 10, lines 35-36), and

a second despreader (113) for spectrum despreading the second spread spectrum signal into a second despread signal (col. 10, lines 37-38).

(6) Regarding to claim 6;

Raghavan et al further discloses a first receiver (60, 54, 72, 76) and a second receiver (112, 113, 115, 117) (see figure 3B and col. 3, lines 11-41, col. 9, lines 23-52),

wherein the first receiver comprises:

a first replica code formatter (60) for formatting a first replica spreading code into a first replica formatted code, the first replica spreading code being a replica of the first spreading code, a first despreader (54) for spectrum despreading the first spread spectrum signal into a first despread signal, and a detector (76) for detecting the first data stream for the first despread signal;

and the second receiver comprises:

a second replica code formatter (112) for formatting a second replica spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code (col. 10, lines 35-36), and

a second despreader (113) for spectrum despreading the second spread spectrum signal by the second replica formatted code into a second despread signal Col. 10, lines 36-37).

(7) Regarding to claim 7;

Raghavan et al further discloses a first replica code formatter (60) for formatting a first replica spreading code into a first replica formatted code, the first replica spreading code being a replica of the first spreading code, a first despreader (54) for spectrum despreading the first spread spectrum signal into a first despread signal,

a second replica code formatter (112) for formatting a second replica spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code (col. 10, lines 35-36), and

a second despreader (113) for spectrum despreading the second spread spectrum signal into a second despread signal (col. 10, lines 36-37), wherein

, the first code formatter is an NRZ formatter, the first spread spectrum signal is a nonsplit spectrum signal, the first spectrum is a nonsplit spectrum having a center peak, the second code formatter is a Manchester formatter (also known as Biphase –L), the second spread spectrum signal is a split spectrum signal, the second spectrum is a split spectrum having a center null, the first replica code formatter is an NRZ formatter, and the second replica code formatter is a Manchester code formatter (also known as Biphase –L) (see figures 3B, 5A, and col. 9, lines 22-52, col. 10, line 56 to col. 11, line 20).

(8) Regarding to claim 8;

Raghavan et al further discloses a first replica code formatter (60) (see figure 3B) for formatting a first replica spreading code into a first replica formatted code, the first replica spreading code being a replica of the first spreading code,

a first despreader (54) (see figure 3B) for spectrum despreading the first spread spectrum signal into a first despread signal,

a second replica code formatter (112) (see figure 3B) for formatting a second replica spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code, and

a second despreader (113) (see figure 3B) for spectrum despreading the second spread spectrum signal into a second despread signal,

wherein,

the first code formatter is in a transmitter (see figure 3A), the first spread spectrum signal is a nonsplit spectrum signal (see (90) of figure 5A), the second code formatter is in the transmitter (see figure 3A), the second spread spectrum signal is a split spectrum signal (see (132) of figure 5A), the first replica code formatter is in a first receiver (60, 54, 72, 76), the second replica code formatter is in a second receiver (112, 113, 115, 117), the first formatted data stream is communicated between the transmitter and the first receiver, and the second formatted data stream is communicated between the transmitter and the second receiver (see figures 3A, 3B, and col. 8, line 52 to col. 9, line 52, col. 10, line 56 to col. 11, line 20).

(9) Regarding to claim 9,

Raghavan et al further discloses a first replica code formatter (60) (see figure 3B) for formatting a first replica spreading code into a first replica formatted code, the first replica spreading code being a replica of the first spreading code,

a first despreader (54) (see figure 3B) for spectrum despreading the first spread spectrum signal into a first despread signal, a second replica code formatter (112) (see figure 3B) for formatting a second replica

spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code, and

a second despreader (113) (see figure 3B) for spectrum despreading the second spread spectrum signal into a second despread signal,

wherein, the first code formatter is an NRZ formatter (see (36) of figure 3A), the first spread spectrum signal is a nonsplit spectrum signal (see (90) of figure 5A), the second code formatter is a Manchester formatter(also known as Biphase –L) (see (106) of figure 3A), the second spread spectrum signal is a split spectrum signal (see (132) of figure 5A), the first replica code formatter is an NRZ formatter (see (60) of figure 3B), the second replica code formatter is a Manchester code formatter (also known as Biphase –L) (see (112) of figure 3B), the first code formatter and the second code formatter are disposed in a transmitter (see figure 3A).

(10) Regarding to claim 10,

Raghavan et al further discloses the staggered Manchester format is a staggered Biphase-L format (Manchester format also known as biphase –L(106 of fig. 3A, col. 8, lines 65-66).

(11) Regarding to claim 11,

Raghavan et al further discloses the staggered Manchester (106, of fig. 3A) format is a staggered binary offset carrier format (Interpreted as generalized Manchester code format (106, of fig. 3A, (106 of fig. 3A, col. 8, lines 65-66).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Raghavan et al. (US patent number 6075810) discloses NRZ and Biphase-formatted Hexaphase modulated GPS Transmission method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Tayong whose telephone number is 571-270-1675. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lui Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Tayong/
Examiner, Art Unit 2611

September 14, 2008
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611